

Figure 1

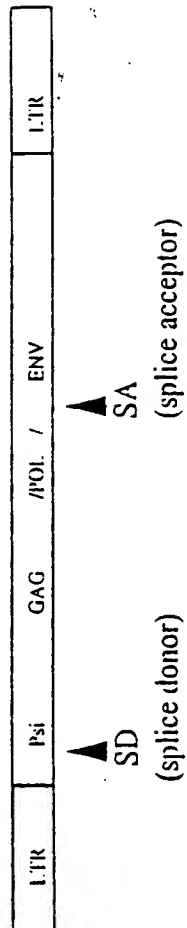
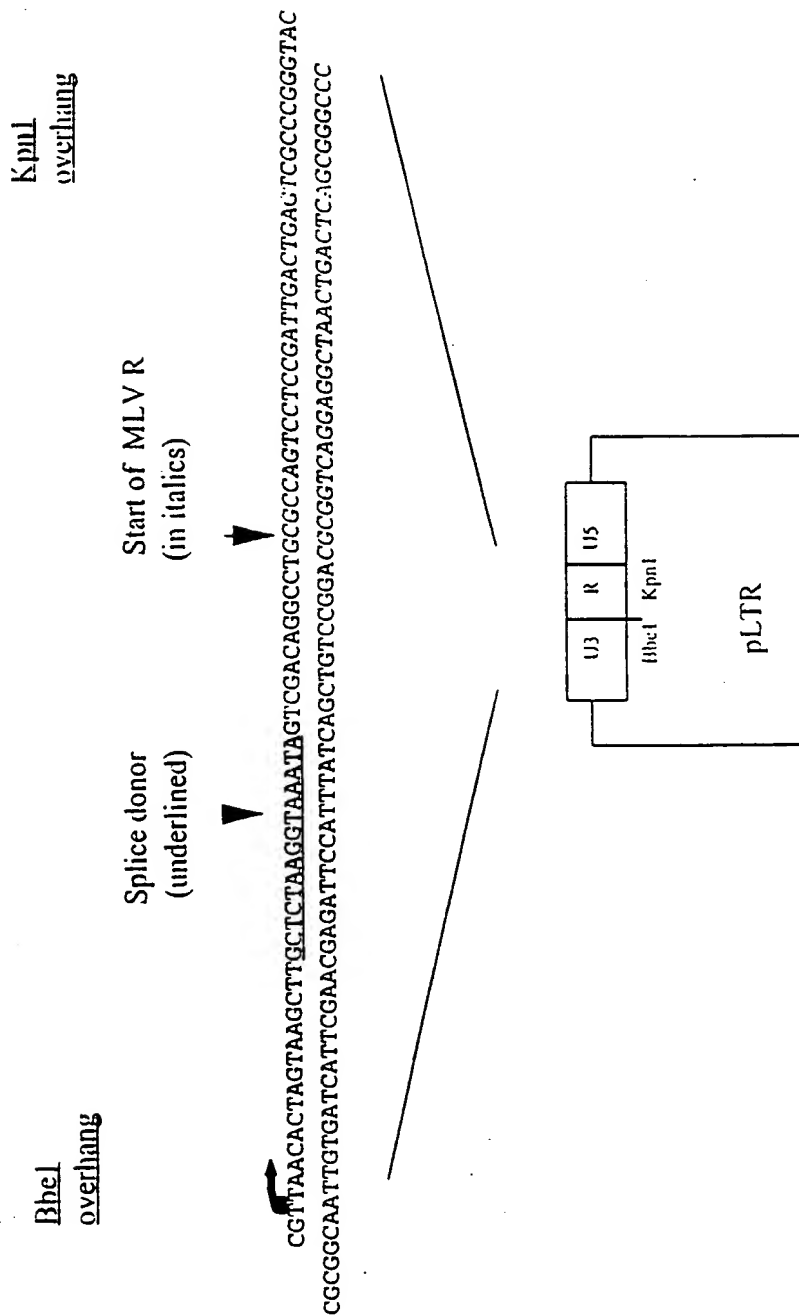


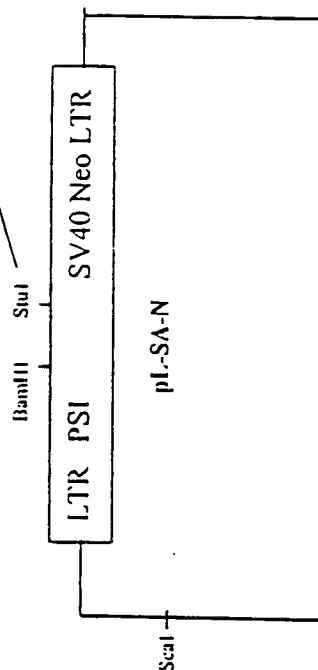
Figure 2



SA ▼

## Branch point

5' : - GATCTAACTAGGTCCTGAGTGTGTTAAACACTGGGCTTTCGACACAGAGAGACCTCTTGCCTTTCGATAGGCACCTATTGGTCTTACTGATATATCCACTTTTGGCTTCTCTCCACAGGTGAG  
ATTGGATCCAGAGCTCACAAATTTTGACCCGAAACAGCTCTGTCTCTTCGAGAACCGAAAGACTATCCGTGGATTAACCAAGATGACTTATATGTGAAACGGAAGAGAGAGGTGTCTCCACTCC



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Figure 4

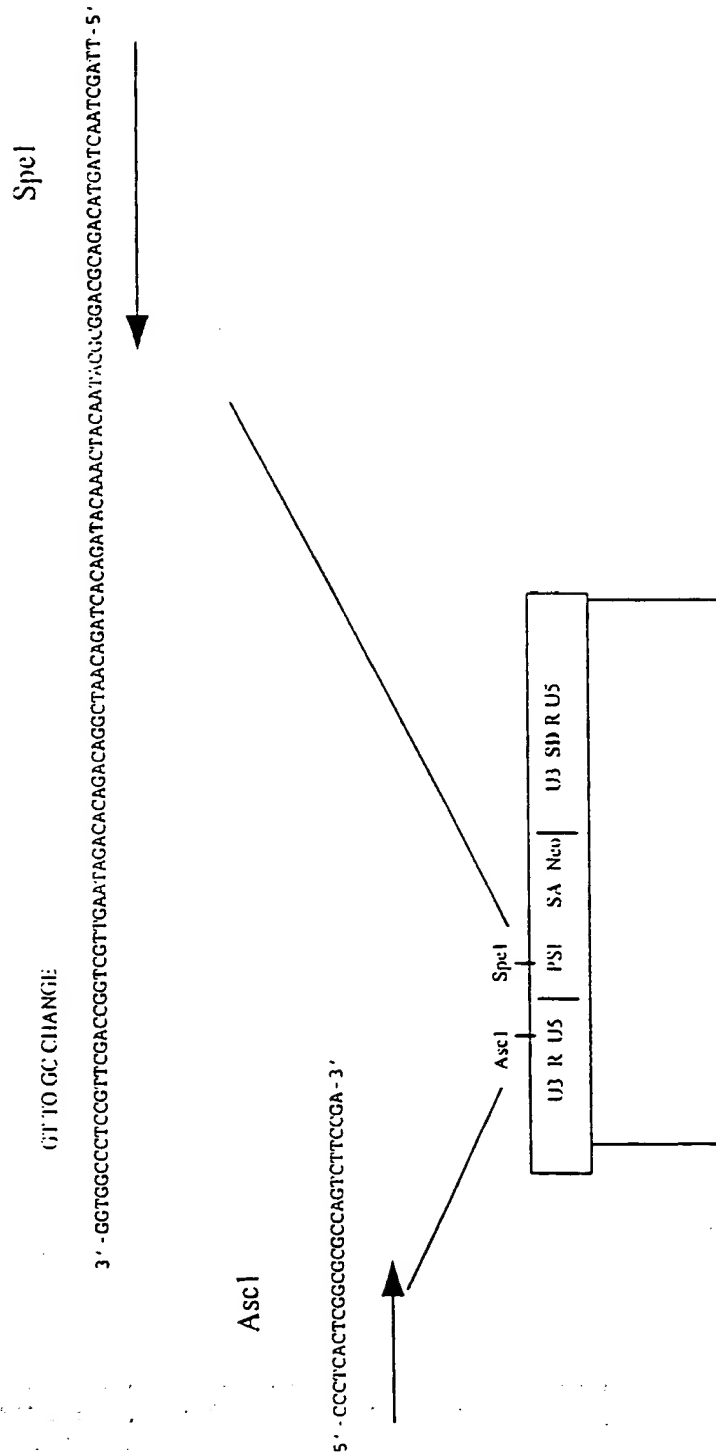
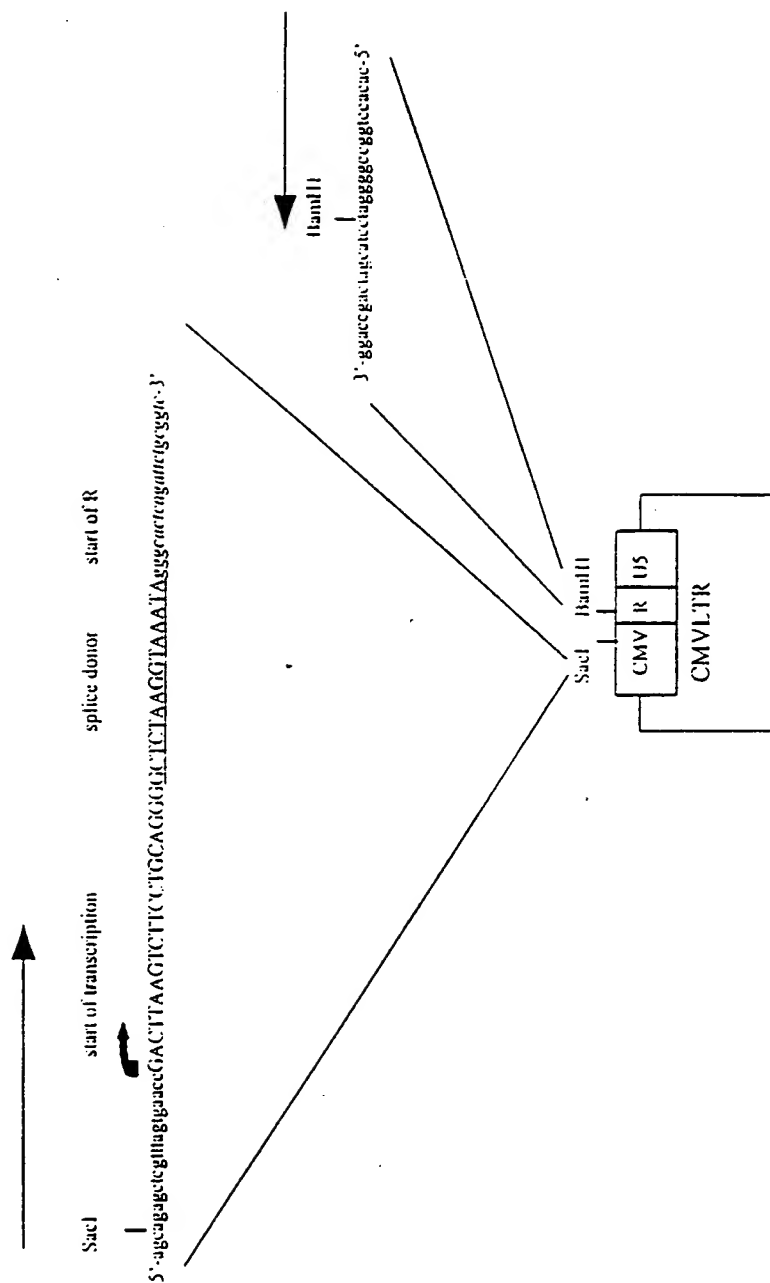


Figure 5

Figure 5

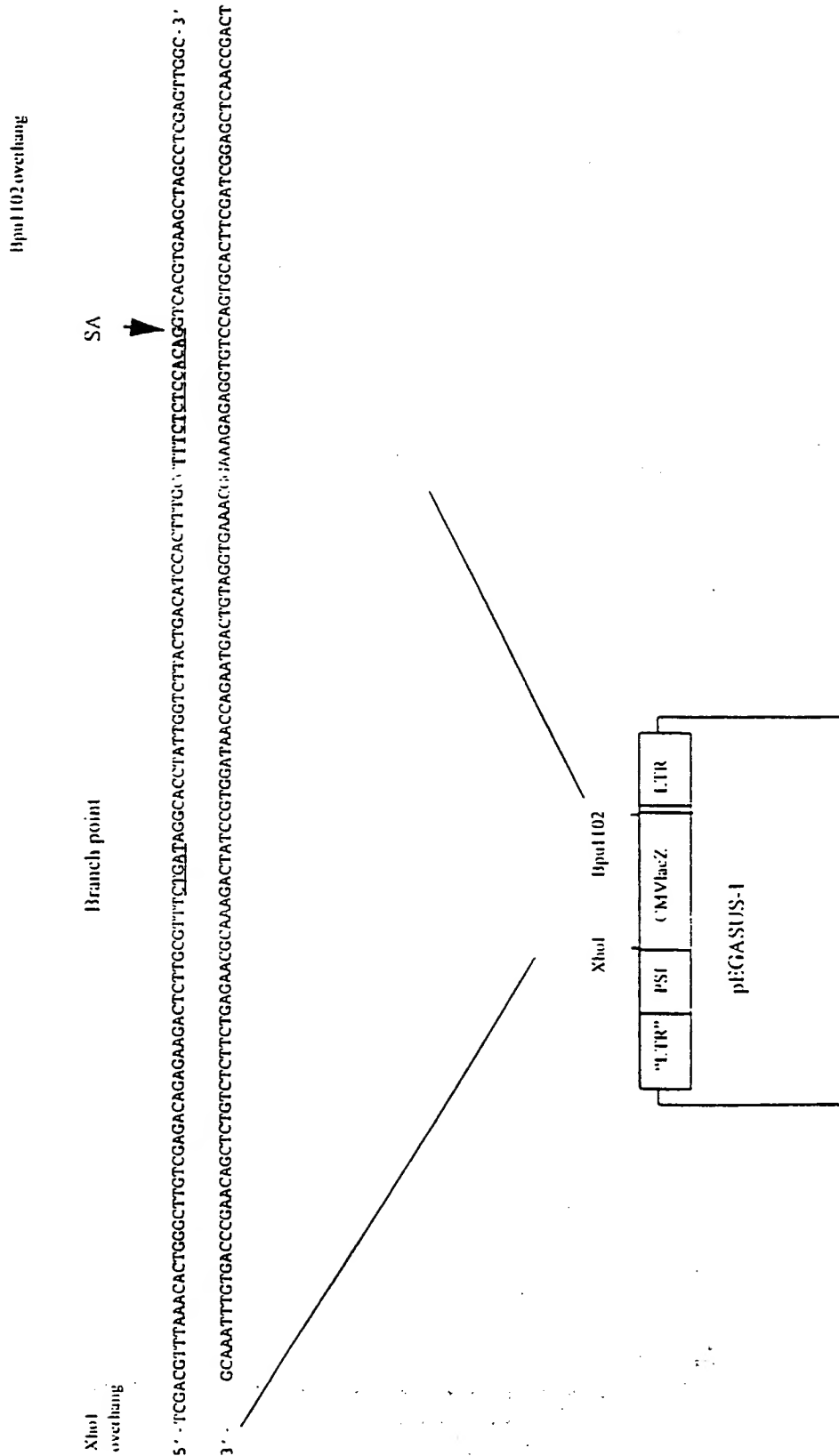
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Figure 6



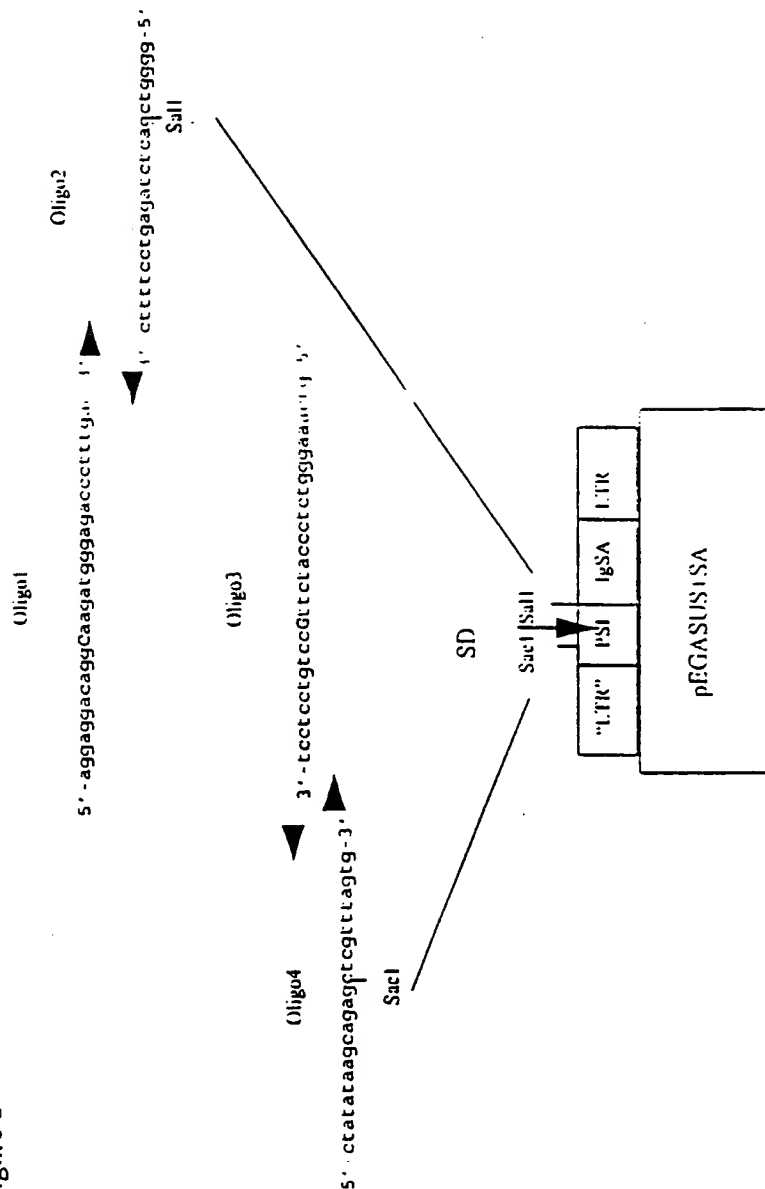
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Figure 7



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Figure 8





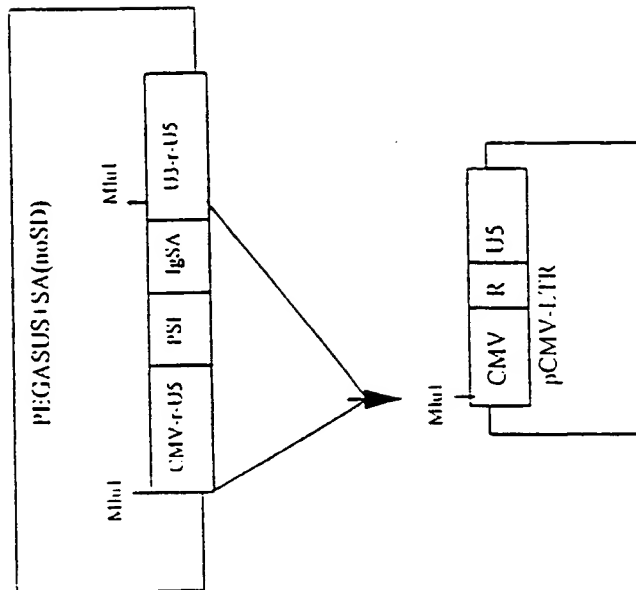
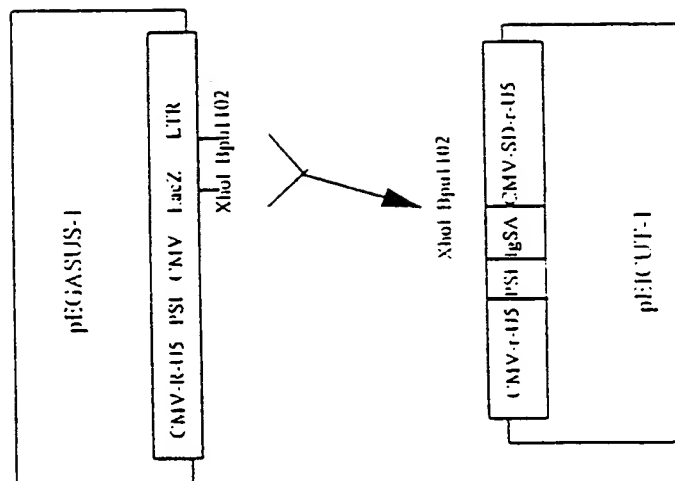


Figure 9

Figure 10



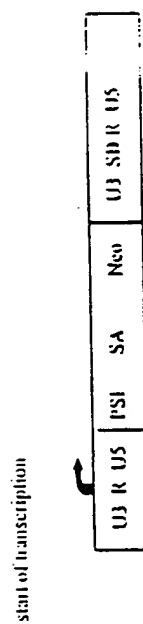


[illegible]

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Figure 12

(A) pLCUT vector in transfected cells



(B) pLCUT vector in transduced cells

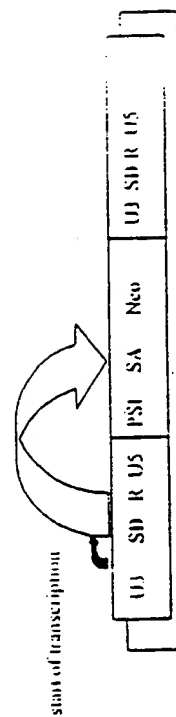
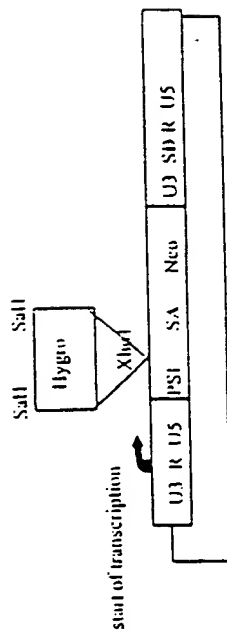


Figure 13

(a) Vector configuration in transfected cells



(B) Vector configuration in transfected cells

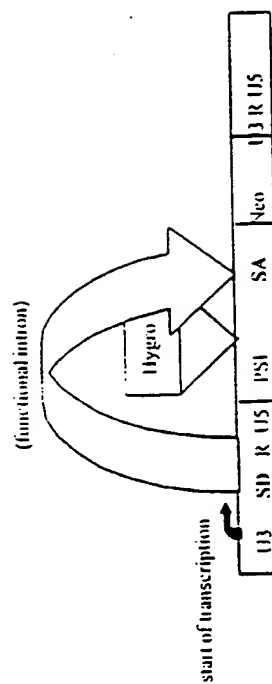
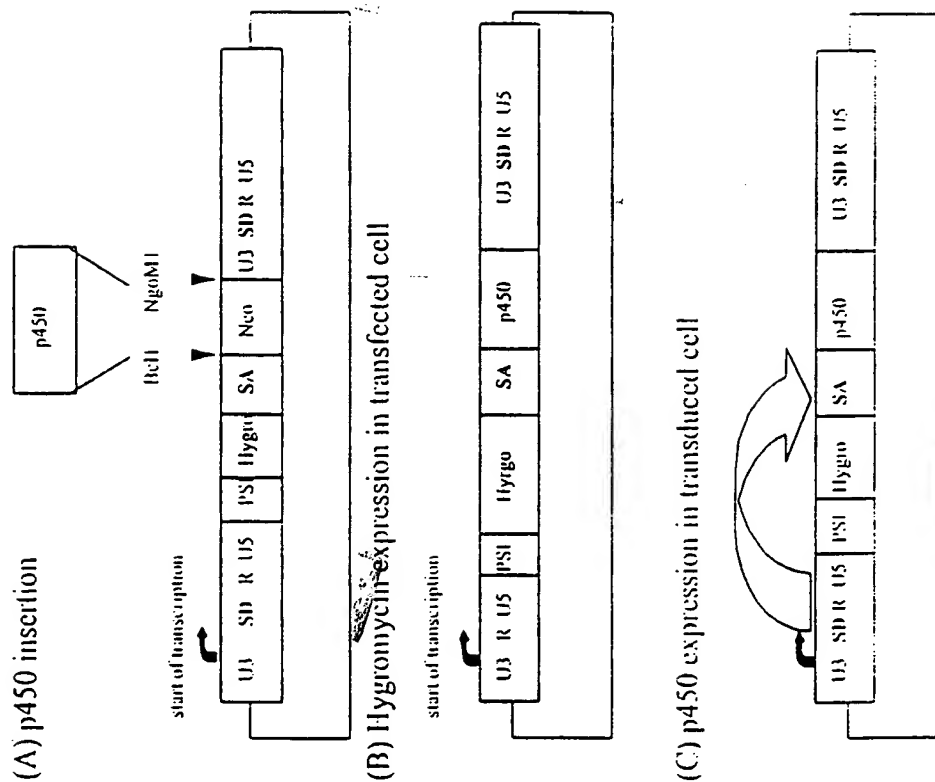


Figure 14



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Figure 15

3' end of pol	5' -ATG CGT TCA ACG CTC TCA AAA CCC (TTT) AAA AAT AAG
5' altered 4070A	5' -ATG GCC AGA AGC ACC CTG AGC AAG CTA CCC CAG GAC
	GTT AAC CCG CGA GGC CCC CTA ATC CTT-3'
	AAA AAT CCC TGG AAA CCT CTG ATC CTC-3'



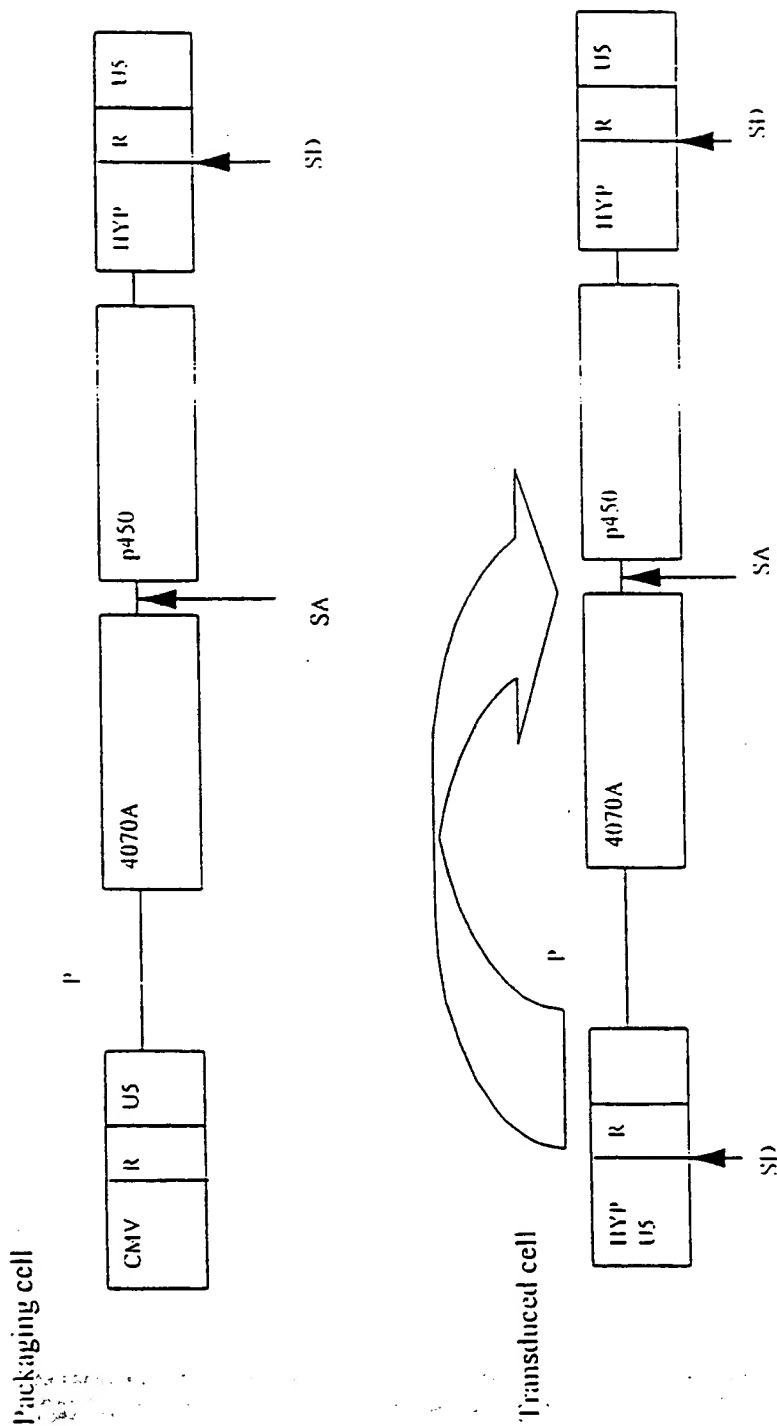
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Figure 16

ATGGCCAGAA GCACCTGAG CAAACCAACC CAGGACAAAA TCATCCCTTG GAACCTTTC  
ATGTCATGAG GAGTCTCTGT AGGATGAGG ATGACAGAGA GCGCCCATC AATTC  
TTTAATGTAA CTTGGAGAGT CACCAACCTG  
ATGACTGGGC GTACCCCAA TGGCACCTCC CTCTGGGAA CTGTACAAGA TGCTTTCTTA  
AAATTATATT TTAGTCTATG TGATCTGGTC GGAGGAGAGT GGGACCCCTTC AGACCAAGAA  
CCGTATGTCG GGTATGGCTG CAAGTACCCC GAGGAGAC AGCGACCCG GACTTTTGAC  
TTTTACGTGT GCCCTGGGCA TACCGTAAAG TCGGGGTGTG GGGGACCCAG AGAGGGCTAC  
TGTGTARAT GCGGTGTGCA AACCACCGA CAGCTTACT GGAAGCCAC ATCCTCTGAG  
GACCTAATCT CCTTAAAGTG CGTAAACACC CCTGGGACA CGGATGCTC TAAAGTGTTC  
TGTGCCCCCT GCTACGACT CTCCAAGTA TCCAATTCTT TCCAAGGGC TACTGAGAG  
GGCAGATGCA ACCCTCTAGT CTAGAGATC ACTGATGAG GAAAAGGC TACTGAGAC  
GGGCCAAAT COTGGGACT GAGACTGTAC CGACAGGAA CAGATCCTAT TACCATGTTT  
TCCCTGACCC GCGAGTCTT TAATGTGGGA CCGGAGTCC CCGTAGGGCC CAACCCAGTA  
TTACCCGACC AAGACTCCC TTCTTACCA ATAGAGATTG TACCGCTCC ACAGCCACTT  
AGCCCCCTCA ATACCAGTTA CCCCCCTTCC ACTACCACTA CACCTCAAC CTCCCTTAFA  
AGTCCAAGTG TCCACAGCC ACCCCAGGA ACTGGAGATA GACTACTAGC TCTAGTCMAA  
GGAGCTATC AGCGCTTAA CTTCAACCAAT CCGACACAGA CCCAAGATG TTGGCTGTTC  
TTAGTGTGG GACTCTCTTA TTACGAAGGA GTAGCGGTG TGGGACTTGA TACCAATCAT  
TCCACCGCTC GGGCCACTG TAGGCCACT TCCACATA AGCTTACCCT ATCTGAGTGT  
ACAGACAGG GCTATGCTAT GGGGGAGTA CTTAAACTC ACCAGGCTT ATGTAACATC  
ACCAAGGG CCGCTCAGG ATCTACTAC ACCAGGTGC TCATCTAC CACAGATTAT  
TGCAGACTG GATTGACTCC CTGCTGTCC ACCAGGTGC TCATCTAC CACAGATTAT  
TGTGTATTAG TTGAATCTG GCCAGAGTA ATTACCACT CCGGATTA TATGTATGTT  
CAGCTTGAAC AGCTACCAA ATATAAAGA GAGCCAGTAT CATTGACCTT GCGCTTTCTA  
CTAGGAGAT TAACCATGG AGGATTTGCA GCTGGAAATAG GGAGGGGAC CACTGCTTGA  
ATTAAGCCC AGCAGTTTGA GCAGCTTCA CCGCTATCC AGACAGCTT CAACGAAATC  
GAAAGTCNA TTACCAACCT AGAAAGTCA CTGACCTCTG TGTCTGAATG AGTCTTACAG  
AACCGCAGG GCTAGATT GCTATTCTTA AAGGAGGAG GTCTCTGCC AGCCCTAATA  
GAGAATGTT GTTTTATCC AGACACAG GGGTAGTGA GAGACAGCAT GCGCAATTA  
AGAGAAAGG TTAATCAGAG ACAAACCTA TTTGAGACAG GCCAAGGATG GTTCGAAATG  
CTGTTTATA GATCCCCCTG GTTTACCACC TTAATCTCA CCATCTGAG ACCTCTAATA  
GTACTCTTAC TATCTTACT CTCTGACCT TGCATCTCA ATCATTGCTT CAATTTTCT  
AAGACAGGA TCTATGTTT CCGGCTCTG GTTTTACTC AGCAATATC CTAAGTAAATA  
CCCATAGAT AGAGCCCATG A

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Figure 17



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Figure 18

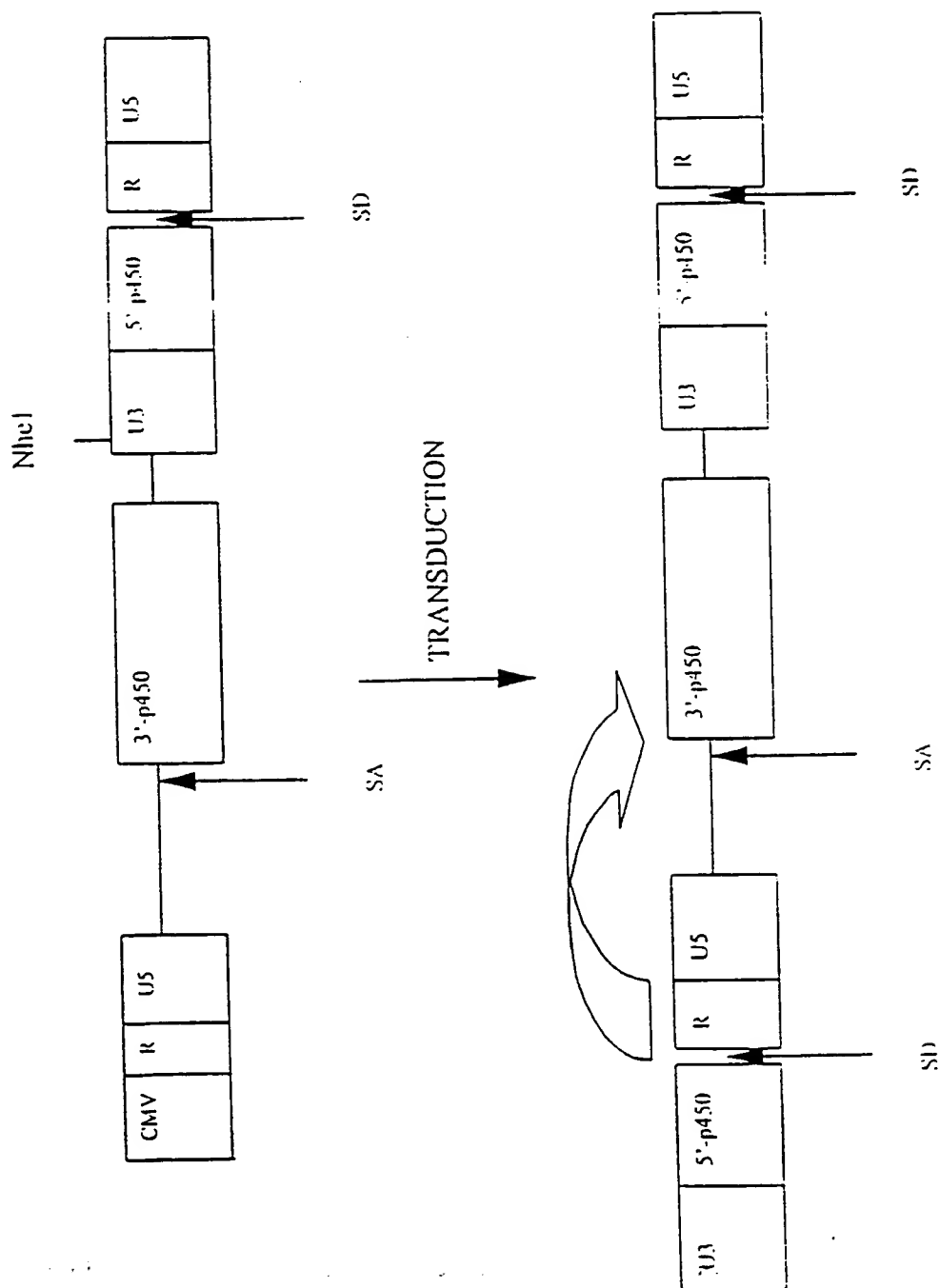
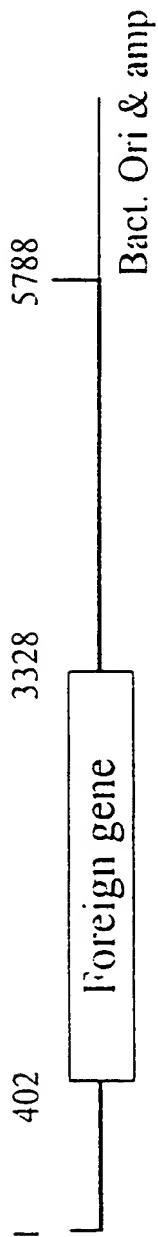
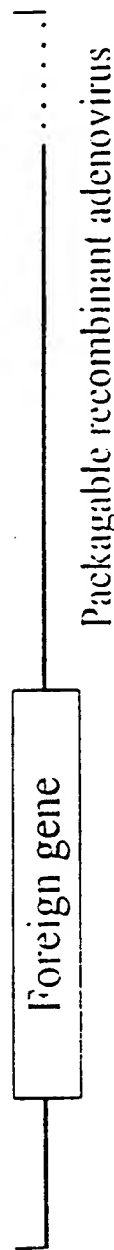
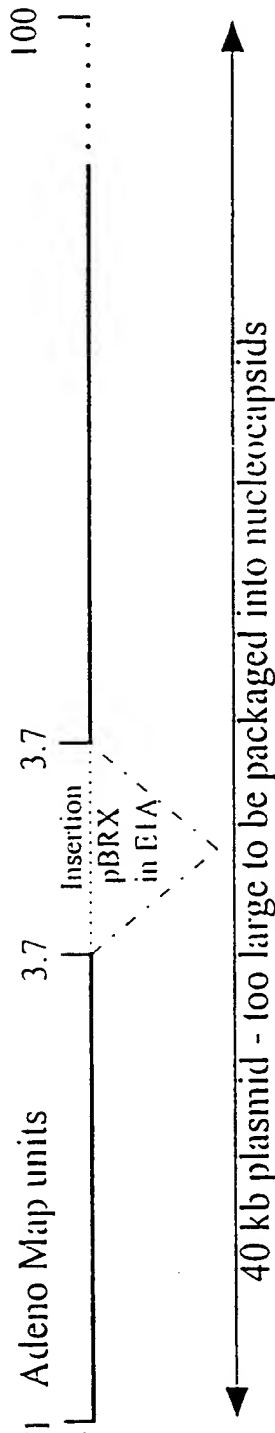


Figure 19  
Transfer vector (shown linear)  
Adeno nucleotides



*Homologous in vivo recombination*

pJM19 (shown linear)



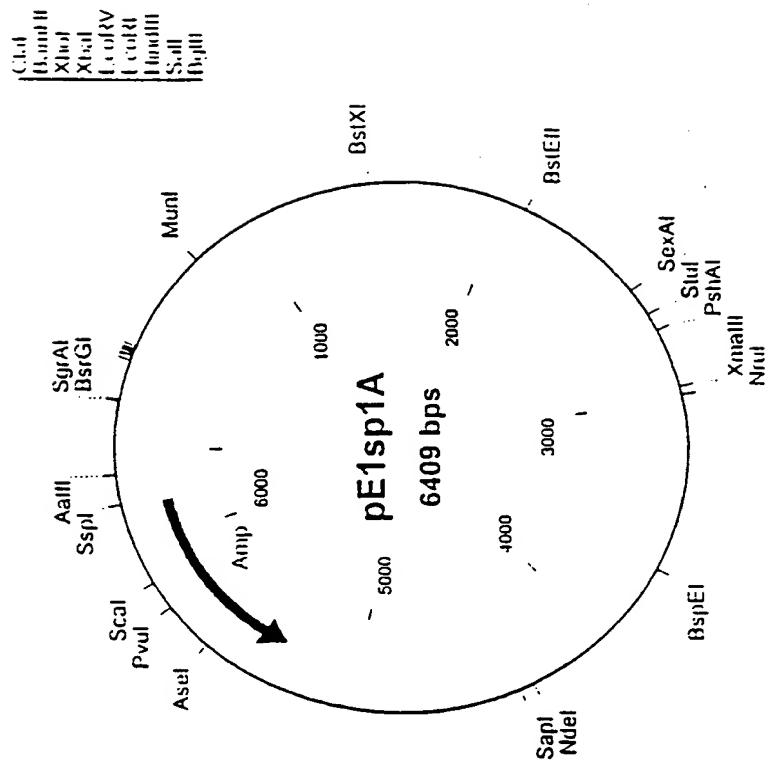


Figure 20

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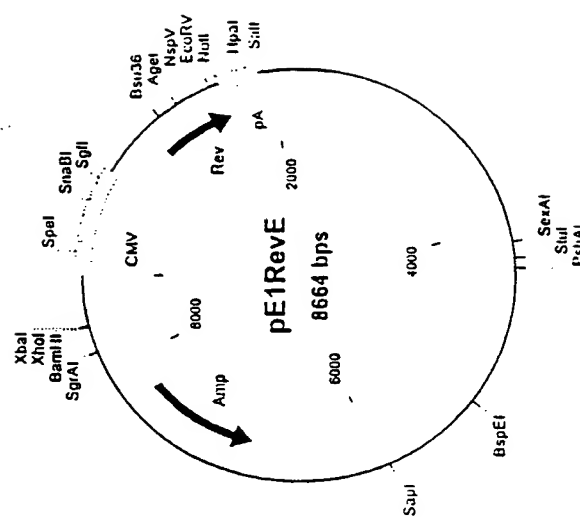


Figure 21

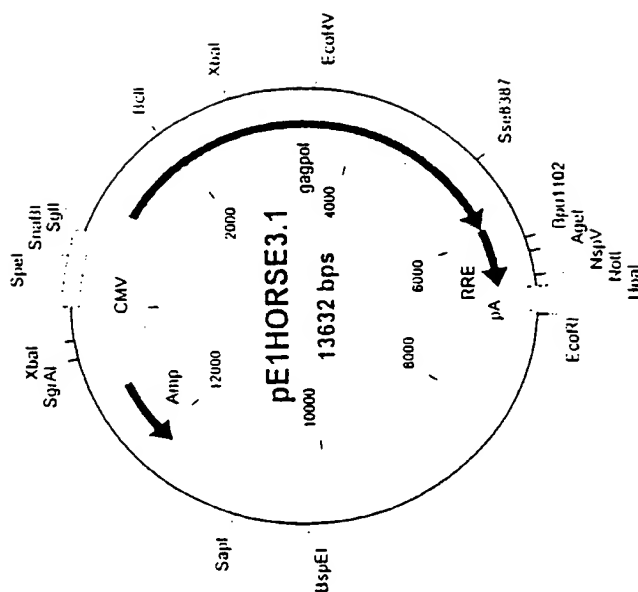


Figure 22

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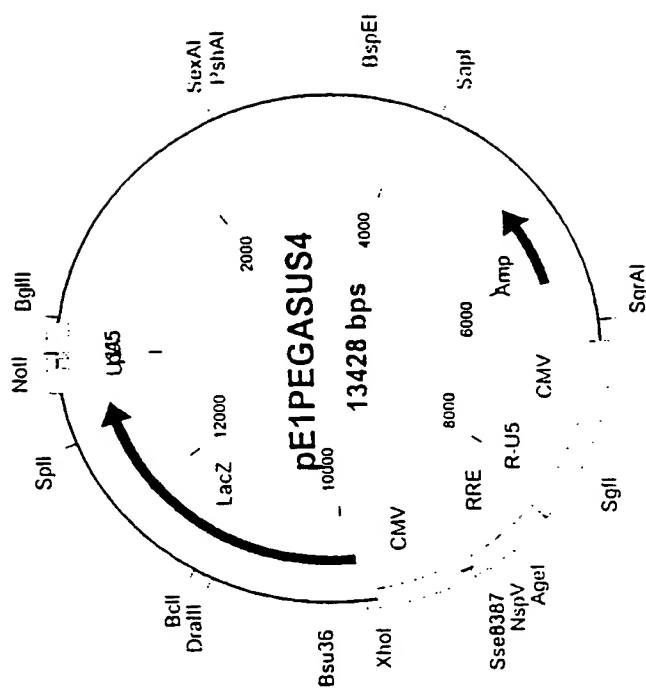


Figure 23



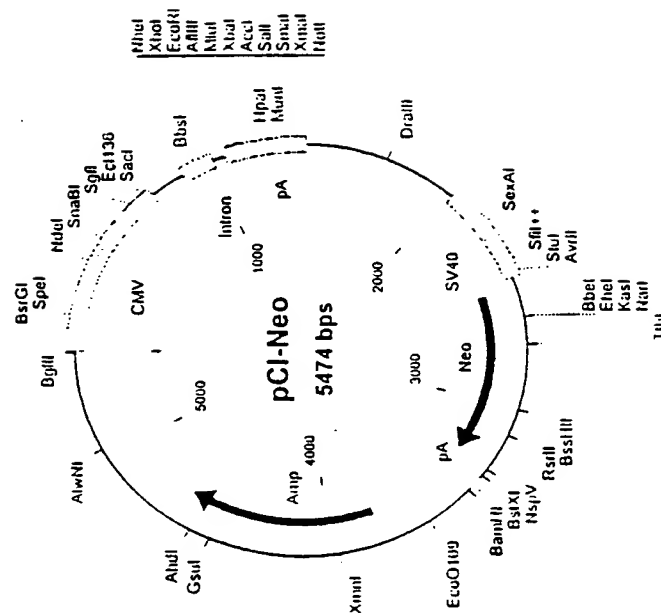


Figure 24

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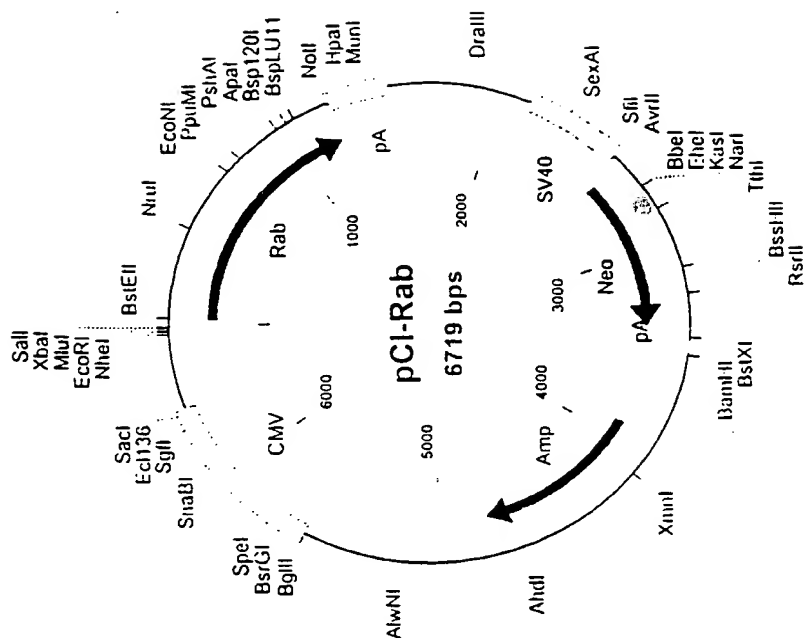


Figure 25

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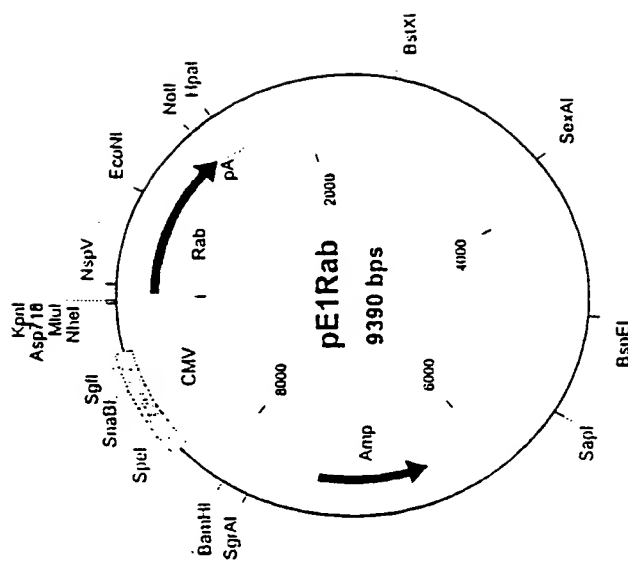
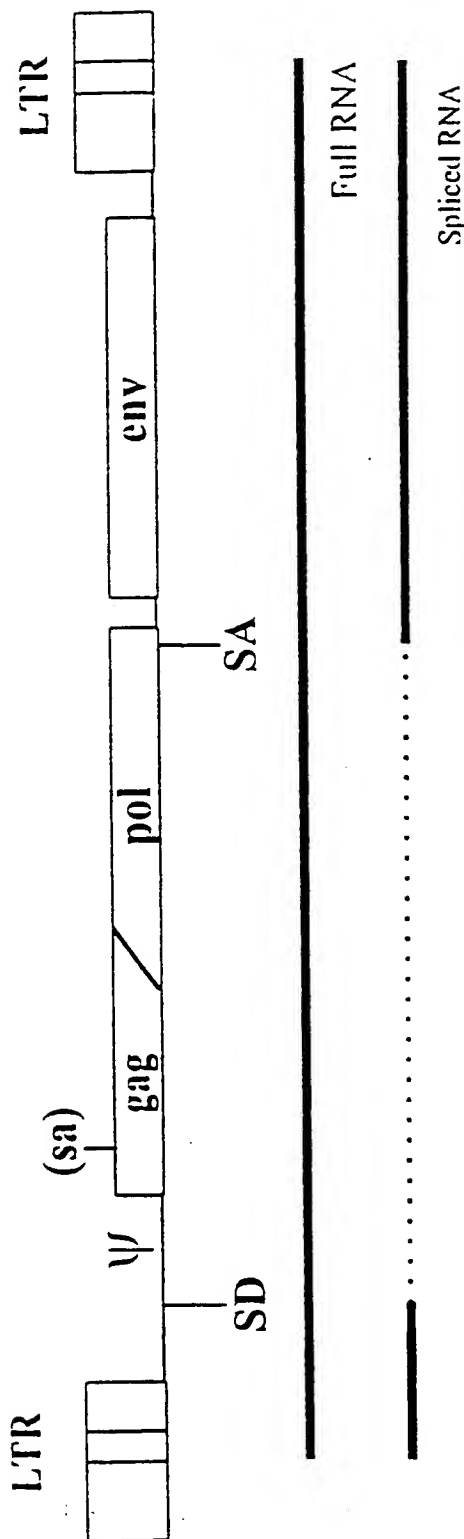


Figure 26

Figure 27a

A) Natural splicing configuration

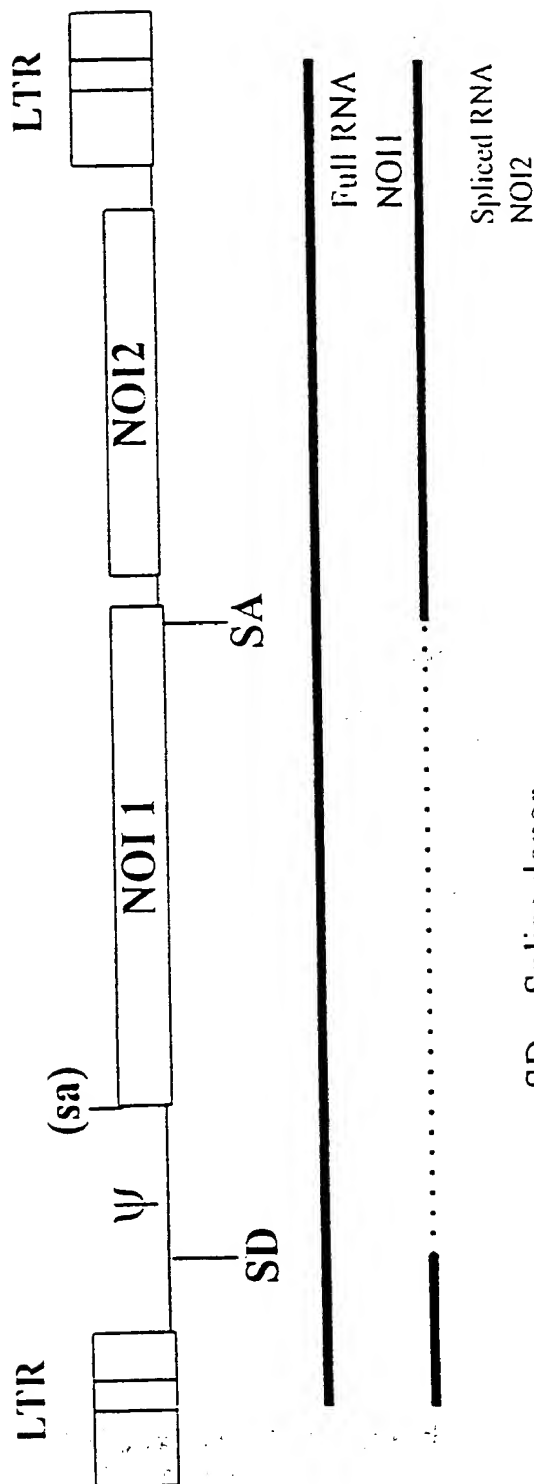


SD = Splice donor  
 SA = Splice acceptor  
 (sa) = cryptic splice acceptor  
 $\psi$  = packaging site

Figure 27b

Splicing configurations in known vectors

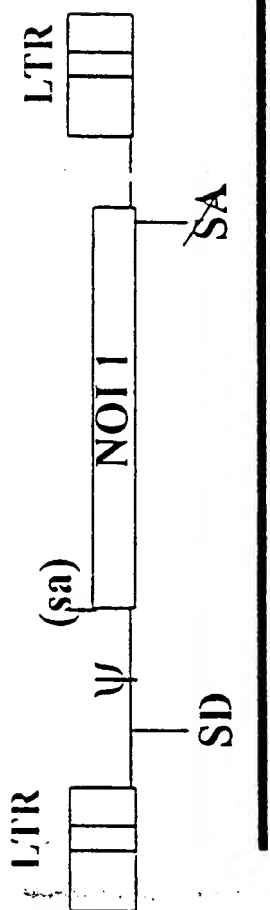
e.g. LTRSVX



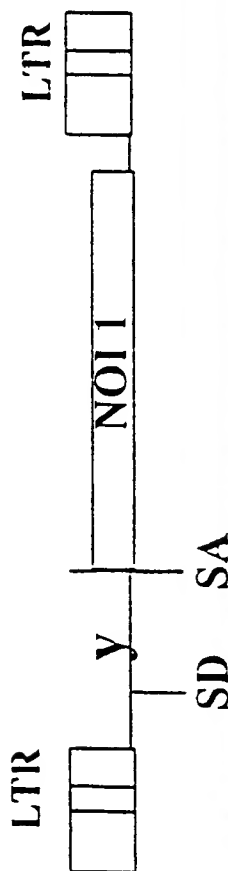
SD = Splice donor  
 SA = Splice acceptor  
 (sa) = Cryptic splice acceptor  
 $\psi$  = packaging site

Figure 27b cont:

e.g. N2



e.g. MFG



SD = Splice donor

SA = Splice acceptor

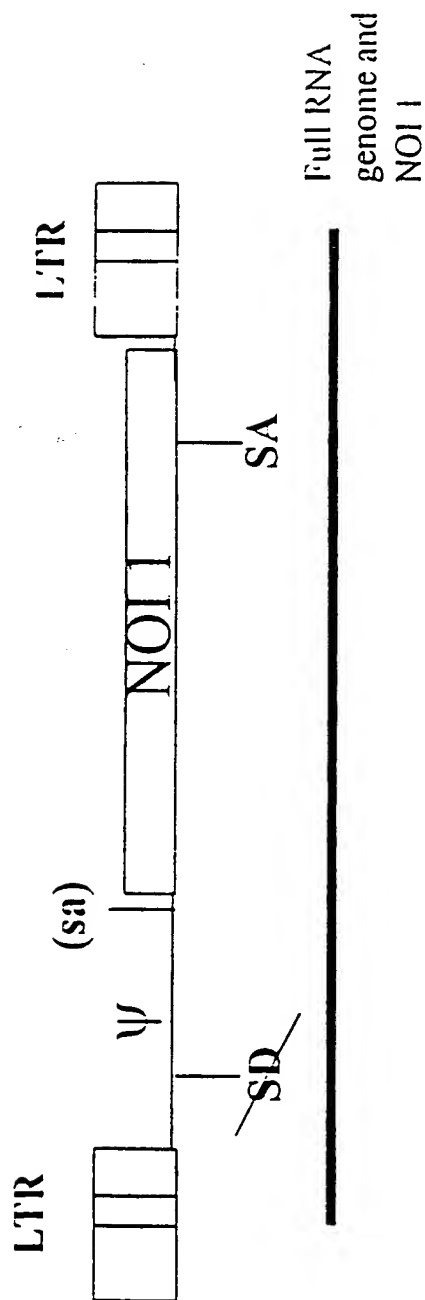
(sa) = cryptic splice acceptor

ψ = packaging site

~~SA~~ = non functional splice acceptor

e.g pBABE

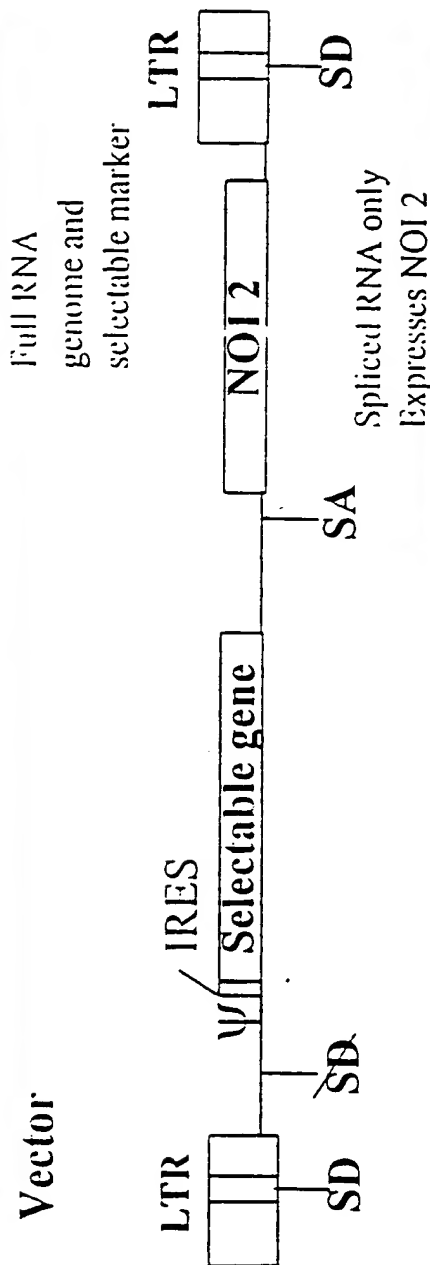
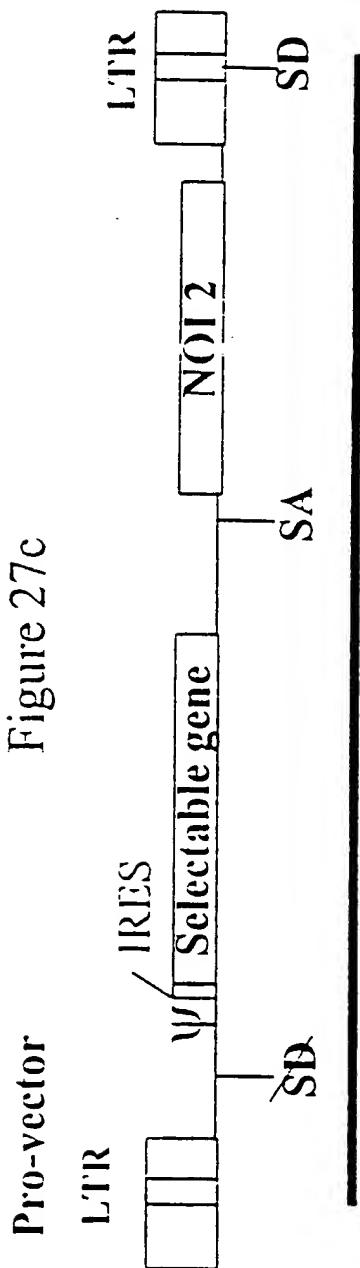
Figure 27b cont



SD = Non functional splice donor  
 SA = Splice acceptor  
 (sa) = cryptic splice acceptor  
 ψ = packaging site

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Figure 27c

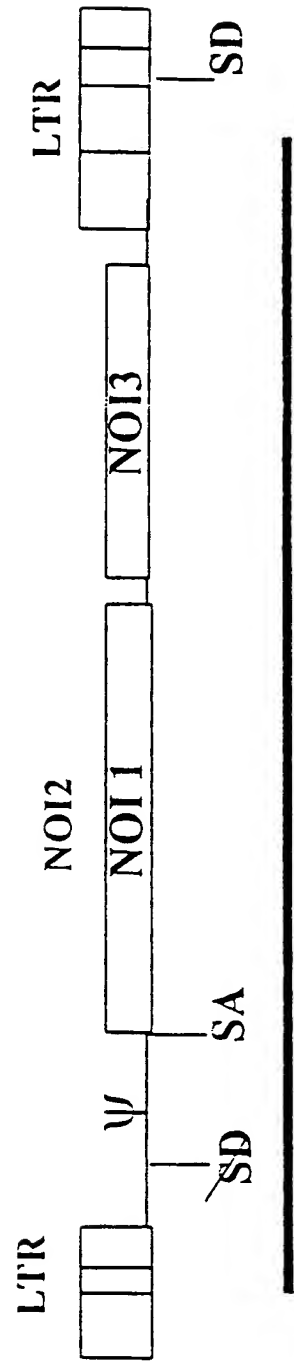


SD = Splice donor  
SD = non functional splice donor  
ψ = packaging site  
SA = Splice acceptor  
(sa) = cryptic splice acceptor  
IRES = internal ribosome entry site (optional)



Figure 27c cont.

Pro-vector



Full RNA  
No genes expresses

Vector

NOI 1

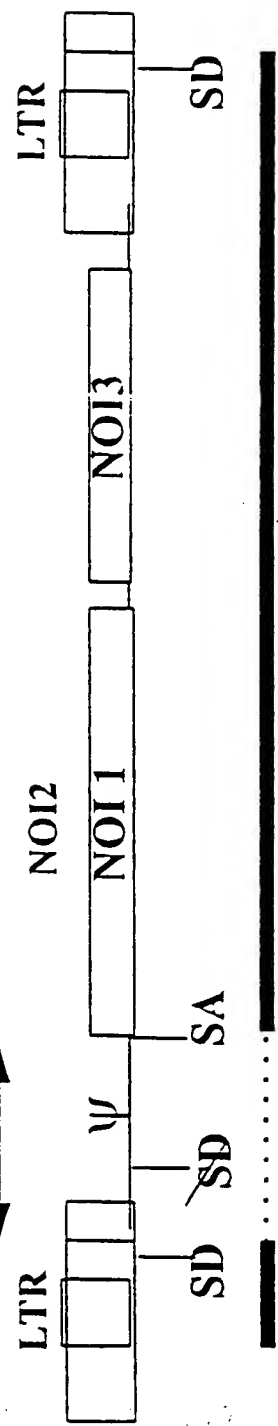


Figure 28

